

## REMARKS

After entry of this amendment, claims 1, 3, 5-7, 26-28 and new claims 30-31 are pending. Claims 2, 4 and 29 are canceled without prejudice. Applicants reserve the right to prosecute subject matter of canceled claims in subsequent applications.

The Title has been amended to be more descriptive of the invention.

The Abstract has been amended to be more descriptive and to delete the word "said."

The specification was also amended on page 4 to recite the address of the European Collection of Cell Cultures.

Claim 1 has been amended to recite a method for detecting the interaction of an insect G-protein coupled receptor a heterologous protein with an endogenous signaling cascade of an erythroid cell comprising the steps of; transforming an erythroid cell according to claim 7 with a vector comprising a sequence which encodes an insect G-protein coupled receptor under the control of a globin promoter, and measuring the cyclic AMP levels or the free calcium ion concentration within the cell. Support is in the specification on page 3, lines 1-4 and page 5, lines 26-32.

Claim 3 has been amended to depend upon claim 1 instead of cancelled claim 2

Claim 5 has been amended to recite an isolated erythroid cell produced by the method of claim 7, which cell is substantially undifferentiated by which is capable of expressing proteins under the control of a globin promoter thereof at levels which allow the method in accordance with claim 1. Support is in the specification on page 3, lines 12-14.

Claim 6 has been amended to recite the isolated erythroid cell according to claim 3 which comprises a cell as deposited at the European Collection of Cell Cultures under Accession number 99012801. Support is in the specification on page 4, lines 7-10.

Claim 7 has been amended to recite a method of producing an erythroid cell which is undifferentiated but which is capable of expressing a protein under the control of a globin promoter thereof, which method comprises maintaining and-growing uninduced erythroid cells in culture for a sufficient period of time that said protein is expressed, and isolating a subclone which expresses said protein. Support is in the specification on page 3, lines 15-18.

Claim 26 has been amended to recite the isolate erythroid cell according to claim 6 which is transformed with a vector comprising a sequence which encodes an insect G protein coupled receptor under the control of a globin promoter. Support is in the specification on page 6, lines 29-31.

Claim 27 has been amended to recite the isolate erythroid cell according to claim 26 which has been further transformed such that it contains a globin promoter associated with a reporter cassette containing a  $\beta$ -galactosidase gene under the control of a response element susceptible to modulation by a signaling cascade of said cell. Support is in the specification on page 9, lines 23-25 and page 6, lines 8-10.

Claim 28 has been amended to recite the isolated erythroid cell according to claim 27 wherein said response element is the Locus control Region (LCR) enhancer, wherein said enhancer is at an optimal distance of said reporter cassette such that the expression of the  $\beta$ -galactosidase gene is dependent on the concentration of a downstream component in the signaling cascade. Support is in the specification on page 9, lines 23-25.

New claim 30 has been added to recite the isolated erythroid cell according to claim 5 wherein said cell is a murine erythroleukaemia cell. Support is in the specification on page 3, line 7.

New claim 31 has been added to recite a method for detecting the interaction of an insect G protein-coupled receptor with an endogenous signaling cascade of an erythroid cell comprising the steps of: providing the erythroid cell according to claim 27 or 28, and measuring the expression levels of the  $\beta$ -galactosidase gene. Support is in the specification on page 3, lines 1-4 and page 6, lines 8-11. No new matter has been added by these amendments.

### **Oath/Declaration**

The Oath or Declaration was found defective because 1) it lacked the identifying application number and filing date and 2) lacked mailing addresses for the inventors. Applicants respectfully point out that the Declaration submitted April 5, 2002 does contain the identifying application number and filing date. Submitted herewith is an Application Data Sheet with the mailing addresses of the inventors.

### **Specification**

The Abstract was objected to for using the word "said." In response, the Abstract has been amended to delete the occurrence of the word "said."

The Title was objected to as not being descriptive. In response, the Title has been amended.

### **Claim Objections**

Claim 28 was objected to for missing a word after "enhancer". In response, claim 28 has been amended to recite "wherein said enhancer is at an optimal distance of said reporter cassette such that the expression of the  $\beta$ -galactosidase gene is dependent on the concentration of a downstream component in the signaling cascade." Applicants request withdrawal of this objection.

### **Claim Rejection under 35 USC § 101**

Claim 5 is rejected under 35 USC § 101 because the invention allegedly is directed to non-statutory subject matter. In response, claims 3, 5, 7, and 26-28 have been amended to recite an "isolated" erythroid cell. These amendments overcome this rejection, and Applicants respectfully request its withdrawal.

### **Claim Rejection under 35 USC § 112, first paragraph**

Claims 1-7 and 26-29 are rejected under 35 U.S.C. 112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant has amended the specification by correcting the defects in the deposit information in order to overcome the claim rejection.

Claims 1-7 and 26-29 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and directly claim the subject matter which applicant regards as the invention. Applicant has amended the claims to more clearly and distinctly claim the invention.

Claims 1-4 were rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. Applicant has amended the claims to specify the assay steps that detect the protein interaction with an endogenous signaling cascade.

Claim 5 was rejected as being indefinite because it is not clear of the meaning of the phrase "which allow the method in accordance with claim 1." Applicant has amended the claim by removing the phrase "which allow the method in accordance with claim 1."

Claim 7 was rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. Applicant has amended the claim to more clearly specify the essential steps.

Claim 27 was rejected as being indefinite because it is not clear the meaning of the phrase "susceptible to modulation by a signaling cascade *used in an assay*." Applicant has amended the claim by deleting the words "*used in an assay*." Applicant also amended the claim to specify that the reporter gene is a  $\beta$ -galactosidase gene.

Regarding the use of the term "interaction", Applicants respectfully argue that those of ordinary skill in the art would understand the meaning of the term and that it refers to any number of ways a protein can interact with an endogenous signaling cascade.

In view of the above amendments, it is submitted that the application is now ready for allowance. If any additional information is needed, the Examiner is invited to call the undersigned attorney at (919) 765-5071.

Respectfully submitted,

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